



## Technical Note No.3 Fast Electric Racing (TenShock Mini Eco)

### 1. Objective

- 1.1. To establish a Mini Eco Brushless Motor Racing Class at club level.
- 1.2. To ensure that all boats comply with the standard specification of the 'TenShock' almost ready to run Mini Eco, with some permitted alterations as detailed in 'Construction Rules' below.

### 2. Construction Rules

- 2.1. The motor is the 'TenShock' TS-N1025, 3,200 Kv Brushless Motor. No variants or other brushless motors to be allowed.
- 2.2. No modifications or additions to the outside of the hull are permitted. *(Except for the addition of front Rubber/Silicone nose fender and Race Number Brackets).*
- 2.3. The original supplied metal propeller is to be used, re-finishing, polishing and balancing is recommended.
- 2.4. The standard 'TenShock' specification M2 Propeller Shaft may be replaced with an equivalent stainless steel version if desired.
- 2.5. Internal reinforcement of the hull is permitted.
- 2.6. The addition of Silicone, Metal and P.T.F.E. washers, to prevent water entering the hull via propeller shaft and rudder shaft is permitted.
- 2.7. Number boards and brackets will be supplied at race meetings. Number boards to be 80 x 80mm. Brackets will be attached with strong double-sided tape. A space should be left free from transfers etc 100mm forward from the aerial socket for brackets to be attached.
- 2.8. An 'arming link' may be fitted to the right side of the deck, forward of the number board. However, this is not recommended due to the possibility of water ingress and corrosion.
- 2.9. The only permitted batteries are 8.4 volt (7cell) 2/3 A size High Drain NiMH or 2 cell 7.4v/ 8.4v LiPos The NiMH battery pack may be constructed from single cells or purchased as a ready-made pack, to be assembled in a straight line, either side by side or in two sticks of three cells placed together with one across the end. Cells or packs that have been performance selected, designated as high voltage, matched, voltage/capacity enhanced in any way are not permitted.
- 2.10. A separate battery pack to power receiver, servo and speed controller may be used if desired.



### 3. Racing Rules

- 3.1. A minimum of two and a maximum of four boats race in any one heat. Heat positions shall be determined using the results from the previous year's racing; e.g. heat one shall have the highest scoring competitors, and so on. The aim shall be for an equal number of entries in each heat. To facilitate this some entrants will be up-graded to the next higher heat.
- 3.2. Race number boards shall be attached to the right-hand side of the boat forward of the aerial socket.
- 3.3. The course shall be an inverted 'V' (*a triangle, the apex being the furthest buoy*) shape approximately 30 x 15 meters, negotiated in anticlockwise direction.
- 3.4. The race duration shall be five minutes, plus seconds to complete the lap you are on. (Maximum time to complete last lap is sixty seconds).
- 3.5. Starting procedure: Boats shall be placed in the starting gate. Drivers will be asked if they are ready. They will then be informed that the race will start within the next ten seconds. The race will start on the word '**Go**'. The first buoy to be negotiated is the top right hand. The race is over when the words '**Race Over**' are called.
- 3.6. Race Marshalls shall record missed buoys. A time penalty is to be imposed in each race for missed buoys, five seconds for each of the first two offences, then one lap deducted for each offence thereafter. The circling of buoys is not permitted to minimise damage to boats. Deliberate missing of buoys to gain advantage shall result in a lap deduction for each offence.
- 3.7. At the end of five minutes a 'seconds count' will start. Boats will complete the lap they are on, and the lap scorer shall record the time in seconds when the boats next cross the scoring line.
- 3.8. The rescue boat may be used during a race if boats are in danger of sinking. Colliding with the Rescue Boat means immediate disqualification from that race.
- 3.9. Dangerous driving is not permitted. Overtaking to be done around the outside of the course, with no undercutting on the corners. Boats that are being lapped should hold their racing line, to allow boats to go around the outside.
- 3.10. Drivers of 'dead' boats must inform fellow competitors immediately of the position on the course where their boat has stopped, using the words 'dead boat, top left' etc.
- 3.11. Hitting a dead boat, once it has been called, also means immediate disqualification from that race.
- 3.12. Scoring: Points will be awarded for the highest number of laps and part laps from the two highest race scores out of three races in a regatta, (or one race if only two races held).



3.13. The points will be as follows:

- 50 for the highest lap score
- 40 for second
- 30 for third
- 20 for fourth
- 10 for fifth
- 5 for all other competitors who entered.

3.14. The end of season results shall be a total of the four highest regatta scores during the season.

3.15. Competitors can expect to have their boats scrutinised by the Race Officer at any time during race meetings. The Race Officers decision is final.